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| 10/532,463      | 02/10/2006  | Hans-Peter Feuerpeil | 2117.004USU         | 1610             |

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EXAMINER

KIM, SUN U

ART UNIT PAPER NUMBER

1723

DATE MAILED: 08/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/532,463

Applicant(s)

FEUERPEIL ET AL.

Examiner

John Kim

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 4-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/22/05</u> . | 6) <input type="checkbox"/> Other: _____  |

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1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to **a single paragraph** on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

Appropriate correction is required.

2. The disclosure is objected to because of the following informalities: Reference to canceled claim 1 on line 10 of page 3 of the specification should be deleted.

Appropriate correction is required.

3. The disclosure is objected to because of the following informalities: A section of "Brief Description of The Drawings" should be included in the specification briefly describing Figures 1-9.

Appropriate correction is required.

4. Claims 4-5 are objected to because of the following informalities: "a second turbulent disk diameter" on line 30 of claim 4 should be changed to "a disk diameter of said at least one turbulence disk". "a species" on line 2 of claim 5 should be corrected to "first species" and "said species" on lines 4-5 of claim 5 should be corrected to "said first species". Appropriate correction is required.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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6. Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 6 is indefinite for failing to particularly point out whether “said cavity” is cavity in membrane disk or turbulence disk.

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 4-6 are rejected under 35 U.S.C. 102(a) as being anticipated by Blasé et al (DE 100 39 272). Regarding claim 4, Blasé et al teach a device for filtering a medium comprising at least one membrane disk (3) and at least one turbulence disk (4), wherein at least one membrane disk (3) and at least one turbulence disk (4) are rotationally mounted on hollow shafts (1, 2) respectively, wherein at least one membrane disk and at least one turbulence disk are positioned in such a manner that a rotation axis of each of at least one membrane disk and at least one turbulence disk are essentially parallel to one another, at least one membrane disk and at least one turbulence disk overlapping when viewed from above, wherein at least one membrane disk and at least one turbulence disk are placed in spaced relation from one another in an axial direction so that at least one turbulence disk produces a turbulence in a region, the region being a relevant affected lateral face of at least one membrane disk, wherein at least one membrane disk is connected to a hollow shaft (1), at least one membrane disk being connected in a rotationally fixed manner so that at least one membrane disk (3) and said hollow shaft (1) rotate together,

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wherein the hollow shaft (1) is conductively connected to a cavity, the cavity being in said at least one membrane disk (3), wherein at least one membrane disk and at least one turbulence disk are driven in substantially a same direction of rotation, wherein at least one membrane disk has less than disk diameter of a turbulent disk, and wherein the device has a difference in a peripheral velocity on a connecting line, the connecting line between each rotation axis of at least one membrane disk and at least one turbulence disk, the difference between at least one membrane disk and at least one turbulence disk being inherently at least about equally large at every point in said region (see Figs. 1-2; paragraph 0027). Paragraph 0027 is translated as follows: "Attached to the hollow shaft (2) are hollow disks (4), which are also referred to as a pack. The unit consisting of the hollow shaft (2) and the hollow disks (4), is assembled identically to the unit consisting of hollow shaft (1) and hollow disks (3). Deviations from this design are, however, possible. The disks (4) can, for example, have a greater diameter than the disks (3)." Regarding claim 5, Blasé et al teach that a pack of membrane disks (3) and a pack of turbulence disks (4) engage intermediate space (see Figure 1). Regarding claim 6, Blasé et al teach that the cavity in the turbulence disk (4) is connected to a cavity in the hollow shaft (2) (see Fig. 1).

9. Claims 4-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Toyokazu (Japanese Patent No. 10-99611 and its associated patent abstract of Japan). Regarding claim 4, Toyokazu teaches a device for filtering a medium comprising at least one membrane disk (31) and at least one turbulence disk (30) having larger diameter than at least one membrane disk (31), wherein at least one membrane disk (31) and at least one turbulence disk (30) are rotationally mounted on separate hollow shafts (23), wherein at least one membrane disk and at

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least one turbulence disk are positioned in such a manner that a rotation axis of each of at least one membrane disk and at least one turbulence disk are essentially parallel to one another, at least one membrane disk and at least one turbulence disk overlapping when viewed from above, wherein at least one membrane disk and at least one turbulence disk are placed in spaced relation from one another in an axial direction so that at least one turbulence disk produces a turbulence in a region, the region being a relevant affected lateral face of at least one membrane disk, wherein at least one membrane disk is connected to a hollow shaft (23), at least one membrane disk being connected in a rotationally fixed manner so that at least one membrane disk (31) and said hollow shaft (23) rotate together, wherein the hollow shaft (23) is conductively connected to a cavity, the cavity being in said at least one membrane disk (31), wherein at least one membrane disk and at least one turbulence disk are driven in substantially a same direction of rotation, wherein at least one membrane disk (31) has less than disk diameter of a turbulent disk (30), and wherein the device has a difference in a peripheral velocity on a connecting line, the connecting line between each rotation axis of at least one membrane disk and at least one turbulence disk, the difference between at least one membrane disk and at least one turbulence disk being inherently at least about equally large at every point in said region (see Figs. 1, 3-4; abstract). Regarding claim 5, Toyokazu teaches that a pack of membrane disks (31) and a pack of turbulence disks (30) engage intermediate space (see Figure 4). Regarding claim 6, Toyokazu teaches that the cavity in the turbulence disk (30) is connected to a cavity in the hollow shaft (23) (see Fig. 4).

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Pat. No. 6,461,503 and 6,558,545 and 7,029,584 are patents by the inventors and


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not qualified as prior art. US Pat. No. 6,808,634 teaches a device comprising membrane disks and hollow shaft.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kim whose telephone number is 571-272-1142. The examiner can normally be reached on Monday-Friday 7 a.m. - 3:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Kim can be reached on 571-272-1142. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
**John Kim**  
**Primary Examiner**  
**Art Unit 1723**

JK  
August 21, 2006